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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,659	08/16/2006	Horst Binder	294826US0PCT	9973

22850 7590 06/09/2011
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

LEONARD, MICHAEL L

ART UNIT	PAPER NUMBER
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1763

NOTIFICATION DATE	DELIVERY MODE
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06/09/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/589,659	Applicant(s) BINDER ET AL.	
	Examiner MICHAEL L. LEONARD	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/08/2011</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/08/2011 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 and 12-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, claims 1 and 14 now require the process for preparing isocyanurate-containing polyisocyanates wherein said reaction is carried out in a gas or gas mixture which is "inert" under the reactions conditions, followed by subsequent dependent claims 26-28 and 31-33 that discusses the total oxygen content to be less than 2%, 1%, and 0.5% respectively. However, to a person of ordinary skill in the art, an "inert" environment is an oxygen-free environment, so the claims as written are unclear as to the terminology of "inert". Does the reaction mixture contain oxygen as well as other

gases or are the applicants' redundantly claiming further limitations that are already met by the normal definition of the term "inert" in a reaction system.

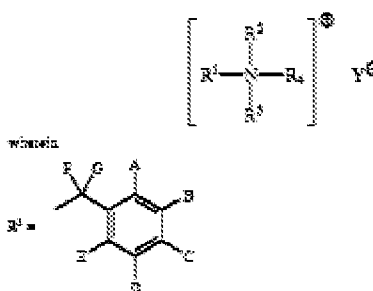
Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-10, 12-13, and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,001,973 to Kohlstruck et al. (US Patent Pub No. 2003/0187178) in view of U.S Patent Pub. No. 2004/0186194 to Joern et al.

As to claims 1-3, 5, and 29-30 Kohlstruck discloses a process for preparing low-viscosity polyisocyanate and polyisocyanate of reduced color containing isocyanurate groups, which comprises partially trimerizing aliphatic and/or cycloaliphatic diisocyanates in the presence of 0.02 to 2% by weight of at least one trimerization catalyst of the following formula:

formula (I):



Wherein y is R₆COO⁻ (Column 3-4) and A, B, C, D, and E simultaneously or independently of one another are hydrogen, chloro, C₁-C₄-alkyl, etc. (Column 3, lines 57-65). Kohlstruck further discloses benzylammonium carboxylates of hexanoic acid,

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acetic acid, 2-ethylhexanoic acid, etc. (Column 7, lines 35-38). Kohlstruck discloses wherein the process proceeds in an inert nitrogen gas atmosphere (Column 8, line 63). Kohlstruck discloses the preparation of the ammonium carboxylates wherein in the process carboxylic acids, such as acetic acid, maleic acid, and propionic acid are used as the carboxylic acid component when preparing the ammonium carboxylates.

Kohlstruck fails to disclose alpha-hydroxy carboxylic acids to be useful in this process.

Joern discloses the use of carboxylic acids in combination with a trimerisation catalyst (tertiary amines) that leads to improved processing and higher isocyanurate conversion, wherein the carboxylic acids are selected from a list that includes hydroxy benzoic acid, citric acid, glycolic acid, lactic acid, as well as acetic acid (0009 and 0012).

The examiner is taking the position that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... The idea of combining them flows logically from their having been individually taught in the prior art. In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). The fact that Joern discloses the same carboxylic acids as the primary reference to Kohlstruck as well as carboxylic acids containing alpha-hydroxy groups would lead a person of ordinary skill in the art to substitute one carboxylic acid for the other to expectedly arrive at the claimed invention, because the carboxylic acids were implemented in both cases to increase isocyanurate conversion as evidenced by Kohlstruck (Column 3, lines 27-

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35) and Joern (0009 and 0012). The examiner is concluding from the prior art that the use of carboxylic acids for isocyanurate conversion is known and that from the disclosure of Joern the carboxylic acid can be chosen from alpha-hydroxy, beta-hydroxy or no-hydroxy and the conversion from isocyanate to isocyanurate will still proceed.

If it is the applicants' position that this would not be the case: (1) evidence would need to be provided to support the applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

As to claims 4 and 6, discloses the use of carboxylic acids in combination with a trimerisation catalyst that leads to improved processing and higher isocyanurate conversion, wherein the carboxylic acids are selected from a list that includes hydroxy benzoic acid, citric acid, glycolic acid, lactic acid, etc. (0009 and 0012).

As to claim 7-8, Kohlstruck discloses deactivating the catalyst with bis(2-ethylhexyl) phosphate (Column 2, line 17) and dibutyl phosphate (Column 4, line 27).

As to claim 9, with regard to the total chlorine content, the Office realizes that all of the claimed effects or physical properties are not positively stated by the reference. However, the reference teaches all of the claimed ingredients. Therefore, the claimed effects and physical properties, i.e. chlorine content would implicitly be achieved by a composite with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be provided to support the applicants' position; and (2) it would be the Office's position that the application contains inadequate

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disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

As to claim 10, Kohlstruck disclose IPDI and HDI as suitable polyisocyanates (Column 4, lines 50-52).

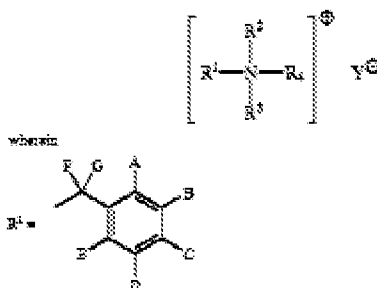
As to claims 12-13, Kohlstruck discloses that the polyisocyanurates are valuable for one and two component polyurethane systems for weather and light-stable polyurethane coatings (Column 5, lines 47-52).

As to claims 26-28, Kohlstruck discloses wherein the process proceeds in an inert nitrogen gas atmosphere (Column 8, line 63), which from the definition provided in the instant specification as well as chemical definition of inert means an oxygen content of below 0.5% by volume. (See NPL document, Page 84).

Claims 14-25 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,001,973 to Kohlstruck et al. (US Patent Pub No. 2003/0187178) in view of U.S Patent Pub. No. 2004/0186194 to Joern et al. and further in view of U.S. Patent No. 6,093,817 to Kohlstruck et al.

As to claim 14-16, 18, and 34-35, Kohlstruck ('973) discloses a process for preparing low-viscosity polyisocyanate and polyisocyanate of reduced color containing isocyanurate groups, which comprises partially trimerizing aliphatic and/or cycloaliphatic diisocyanates in the presence of 0.02 to 2% by weight of at least one trimerization catalyst of the following formula:

formula (I):



Wherein y is R₆COO⁻ (Column 3-4) and A, B, C, D, and E simultaneously or independently of one another are hydrogen, chloro, C1-C4-alkyl, etc. (Column 3, lines 57-65). Kohlstruck further discloses benzylammonium carboxylates of hexanoic acid, acetic acid, 2-ethylhexanoic acid, etc. (Column 7, lines 35-38). Kohlstruck discloses wherein the process proceeds in an inert nitrogen gas atmosphere (Column 8, line 63). Kohlstruck discloses the preparation of the ammonium carboxylates wherein in the process carboxylic acids, such as acetic acid, maleic acid, and propionic acid are used as the carboxylic acid component when preparing the ammonium carboxylates.

Kohlstruck fails to disclose alpha-hydroxy carboxylic acids to be useful in this process.

Joern discloses the use of carboxylic acids in combination with a trimerisation catalyst (tertiary amines) that leads to improved processing and higher isocyanurate conversion, wherein the carboxylic acids are selected from a list that includes hydroxy benzoic acid, citric acid, glycolic acid, lactic acid, as well as acetic acid (0009 and 0012).

The examiner is taking the position that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose,

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in order to form a third composition to be used for the very same purpose.... The idea of combining them flows logically from their having been individually taught in the prior art. In re Kerkhoven, 626 F.2d 846, 850,205 USPQ 1069, 1072 (CCPA 1980). The fact that Joern discloses the same carboxylic acids as the primary reference to Kohlstruch as well as carboxylic acids containing alpha-hydroxy groups would lead a person of ordinary skill in the art to substitute one carboxylic acid for the other to expectedly arrive at the claimed invention, because the carboxylic acids were implemented in both cases to increase isocyanurate conversion as evidenced by Kohlstruch (Column 3, lines 27-35) and Joern (0009 and 0012). The examiner is concluding from the prior art that the use of carboxylic acids for isocyanurate conversion is known and that from the disclosure of Joern the carboxylic acid can be chosen from alpha-hydroxy, beta-hydroxy or no-hydroxy and the conversion from isocyanate to isocyanurate will still proceed.

If it is the applicants' position that this would not be the case: (1) evidence would need to be provided to support the applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

Kohlstruck discloses the use of HDI and IPDI polyisocyanates, but fails to disclose low-halogen containing polyisocyanates.

However, Kohlstruck ('817) discloses the use of low-halogen containing HDI and IPDI in the process for preparing reduced-color isocyanurate functional polyisocyanates (Column 2, lines 35-37). Kohlstruck further discloses the problems associated with high chlorine containing polyisocyanates (Column 1, lines 15-67).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to replace the high-halogen containing HDI and IPDI of Kohlstruck ('973) with the low-halogen containing HDI and IPDI of Kohlstruck ('817) because the lower halogen containing polyisocyanates have lower cost-intensive safety measures, lower corrosiveness of the reaction mixture, lower lability of the solvents that are commonly employed, and the formation of chlorine-containing byproducts, which are codeterminates of the physical properties of the product such as the color, viscosity, and vapor pressure, and of the chemical properties such as reactivity and storage life of the polyisocyanates as evidenced by Kohlstruck ('817) (Column 2, lines 1-15).

As to claims 17 and 19, Joern discloses the use of carboxylic acids in combination with a trimerisation catalyst that leads to improved processing and higher isocyanurate conversion, wherein the carboxylic acids are selected from a list that includes hydroxy benzoic acid, citric acid, glycolic acid, lactic acid, etc. (0009 and 0012).

As to claim 20-21, Kohlstruck discloses deactivating the catalyst with bis(2-ethylhexyl) phosphate (Column 2, line 17) and dibutyl phosphate (Column 4, line 27).

As to claim 22-23 Kohlstruck ('817) discloses less than 80 ppm of chlorine is present in the halogen free polyisocyanate selected from IPDI and HDI (Column 2, lines 35-37, Column 3, line 56)

As to claims 24-25, Kohlstruck ('978) discloses that the polyisocyanurates are valuable for one and two component polyurethane systems for weather and light-stable polyurethane coatings (Column 5, lines 47-52).

As to claims 31-33, Kohlstruck discloses wherein the process proceeds in an inert nitrogen gas atmosphere (Column 8, line 63), which from the definition provided in the instant specification as well as chemical definition of inert means an oxygen content of below 0.5% by volume. (See NPL document, Page 84).

Response to Arguments

Applicant's arguments, see Arguments, filed 02/08/2011, with respect to Farriseey in view of Joern have been fully considered and are persuasive. The rejection has been withdrawn because Farriseey fails to disclose wherein the process is conducted under an inert gas atmosphere.

Applicant's arguments filed 02/08/2011 have been fully considered but they are not persuasive. Applicants argue that the claimed invention has not been rendered obvious by Kohlstruck ('973) and/or Kohlstruck ('817) in view of Joern for 7 reasons.

1) The first being that the Examiner's interpretation of Joern is incorrect because Joern is related to a method of making urethane-modified polyisocyanurate foam using a catalyst for trimerization, a functionalized carboxylic acid, and a blowing agent. The applicants' have cited two additional references and further discussed the importance of non-foaming during isocyanurate conversion. The examiner has noted the references.

2) The second being that the addition of free acids or water leads to the evolution of carbon dioxide, which is to be avoided for polyisocyanates for

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coatings and thus the prior art teaches away from the modification that the examiner alleges.

3) The third being the alpha-hydroxy carboxylates are would not be considered as functional equivalents to the non-alpha-hydroxy carboxylates disclosed by Kohlstruck even though the secondary reference to Joern discloses such a functional equivalency by listing alpha-hydroxy carboxylates non-alpha-hydroxy carboxylates in a list of 5 (3 being alpha-hydroxy and 2 being non-alpha hydroxy containing) (0012). The applicants' pointed to the specific examples cited in the specification to show the differences.

4) The fourth being that Joern discloses lactic acid as a suitable functionalized carboxylic acid, but lactic acid as discussed by Joern is a known blowing agent and the blowing agent feature is disadvantageous.

5) The fifth being that Kohlstruck discloses wherein catalysts containing hydroxy groups in the ammonium portion of the catalyst is detrimental with respect to color number

6) The sixth being that the increased amount of free acid in the reaction affects the color number of the isocyanurate when used in stoichiometric surplus.

7) The seventh being the influence of acids also effects the reaction of HDI presumably due to carbon dioxide formation.

In response to issue 1), in particular, to applicant's argument that Joern is nonanalogous art, it has been held that a prior art reference must either be in the field of

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applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Joern discusses ways to improve isocyanurate conversion by combining known trimerization catalyst with functionalized or non-functionalized carboxylic acids, including alpha-hydroxy carboxylic acids. Joern clearly teaches that the addition of the functionalized or non-functionalized carboxylic acids results in an improvement in isocyanurate conversion and therefore a person of ordinary skill in the art would see this teaching and apply it to Kohlstruck with a reasonable expectation of success.

In response to issue 2), the primary reference to Kohlstruck discloses a water-free environment (inert nitrogen) for preparing polyisocyanurates and therefore a person of ordinary skill in the art would not tend to add component c) blowing agent of Joern to the process of Kohlstruck for the reasons presented above. The examiner is simply relying on Joern to show that the use of carboxylic acids for isocyanurate conversion is known and that from the disclosure of Joern the carboxylic acid can be chosen from alpha-hydroxy, beta-hydroxy or no-hydroxy and the conversion from isocyanate to isocyanurate will still proceed. The free acid component of Joern would be added to the ammonium hydroxide component of Kohlstruck to form the ammonium carboxylate, which is then used as the catalyst for the isocyanurate process.

In response to issue 3) the applicants' examples show comparative data from non-alpha hydroxy carboxylates that were not listed in the secondary reference to

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Joern in a preferred embodiment. Thus, the applicants' failed to show unobviousness between the closest combination of references and the instant invention. For instance, the comparative data only compared data between one non-alpha hydroxy carboxylates (2-ethylhexanoate, See Comp. Ex. 1-3) and failed to show comparison data between the 3 preferred non-alpha hydroxy carboxylates of Joern (0012) and the alpha-hydroxy carboxylates of the instant invention. Thus, the applicants' did not compare the closest combination of prior art references to the claimed invention and therefore the unexpected properties are irrelevant.

Furthermore, the improvement in the color number as seen from the data presented in the instant specification does not establish a trend for all non-alpha hydroxy carboxylates because the data only proved that one (2-ethylhexanoate) would not produce the desired color value. As a result, from reading the disclosure of Joern that discloses a functional equivalency by listing alpha-hydroxy carboxylates non-alpha-hydroxy carboxylates in a list of 5 (3 being alpha-hydroxy and 2 being non-alpha hydroxy containing) (0012), a person of ordinary skill in the art could reasonably substitute from the list of 5 each carboxylate to arrive at the presently claimed invention, including low color containing polyisocyanurates.

Furthermore, U.S. Patent No. 5,691,440 to Katz discloses other non alpha-hydroxy ammonium carboxylates that produce HDI trimers having a color number of less than 40 APHA units, which would tend to meet the applicants definition of "low color." (Column 4, lines 40-67). The disclosure of Katz sheds light on the fact that there is no trend that all non-alpha hydroxy carboxylates because would not produce the

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desired color value because the data only proved that one (2-ethylhexanoate) would not. In other words, the claimed process must contain additional steps currently not claimed that result in a low color number.

Also, the examples demonstrated are not commensurate in scope with the claims as written. For instance, the claims as written suggest that any type of (cyclo)aliphatic polyisocyanate can be used in the process of forming low-color number polyisocyanurates. However, the examples only disclose the use of HDI and IPDI. The applicants' conclusion that the difference in color number is only attributed to the catalyst used is not supported by the data presented because of the teachings of Katz and well as the combination of references to Kohlstruck ('817).

In response to issue 4), "blowing capacity" as disclosed by Joern does necessarily mean the formation of foams per se. The applicants' demonstrate that lactic acid is a viable alpha-hydroxy carboxylic acid in the process of isocyanurate conversion and therefore, unless the process is specifically designed for foam formation, lactic acid could and should be considered a viable alternative to the non-functionalized carboxylic acids disclosed by Kohlstruck. Kohlstruck discloses a water-free environment, which suggests a foam-free environment and therefore based on applicants' examples lactic acid is a viable alternative.

In response to issue 5), the hydroxy substituent on the ammonium cation is a non-preferred embodiment of the Kohlstruck reference and as such that modification would not suggest to a person of ordinary skill in the art that adding hydroxy-substituents to the anion portion of the catalyst would be detrimental to the

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color number. Kohlstruck discloses non-hydroxy ammonium cations to produce the desired color number and a person of ordinary skill in the art would not modify the ammonium portion as suggested by the applicants. Once again, the carboxylic acid portion, it appears, can either be functionalized or non-functionalized and still result in a low color number based on the claims and the fact that Joern teaches them as functional equivalents in isocyanurate conversion.

In response to issue 6), while the applicants' data shows that the using a stoichiometric excess of acid unexpectedly results in an increase in color number is noted, however, it still fails to overcome the prima facie case of obviousness because 1) Joern discloses either a stoichiometric or sub-stoichiometric amount of acid should be added (0012), 2) Kohlstruck teaches the same (See Examples), and 3) there is nothing in the claims that suggest the amounts of acid to be used and thus the results are not commensurate in scope.

In response to issue 7, the applicants' presume that the results are influenced by carbon dioxide formation because lactic acid is a known blowing agent. However, the experimental shown in the arguments does not suggest an isocyanurate process done under an inert atmosphere and therefore it is unclear if moisture played a role in the color number and/or carbon dioxide formation. Also, lactic acid and acetic acid are not simply added to the reaction mixture, they are first reacted with the ammonium cation to form ammonium hydroxy-carboxylates or nonhydroxy-carboxylates. The experimental data presented fails to relate to isocyanurate conversion and the process for preparing as suggested by Kohlstruck, wherein

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ammonium carboxylates are first formed then reacted in an inert atmosphere with an isocyanate to prepare isocyanurate-containing isocyanates.

In conclusion, the fact that Joern is related to urethane-containing isocyanurate foams would still not deter a person of ordinary skill in the art from substituting the non-functionalized carboxylic acids of Kohlstruck for the functionalized carboxylic acids of Joern because Joern teaches that these are viable alternatives when preparing isocyanurate. Therefore, under the conditions of Kohlstruck as evidenced by Katz a person of ordinary skill would conclude that functionalized or non-functionalized carboxylic acids can be used interchangeably to result in low color number during isocyanurate conversion.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL L. LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL L LEONARD/
Examiner, Art Unit 1763

/MILTON I CANO/
Supervisory Patent Examiner, Art Unit 1763